

In the Claims

Please amend Claims 1, 9, 19, 51, 58, 66, 72, 78 and 79 as follows:

- C<sup>2</sup>
1. (Twice Amended) A non-human transgenic mammal, progeny or embryo thereof which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the marker fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal, progeny or embryo thereof, and the expression of the gene coding for the marker fluorescent protein is detected using fluorescence.

- C<sup>3</sup>
9. (Twice Amended) A method of producing a non-human transgenic mammal which expresses a marker fluorescent protein in multipotent stem and progenitor cells, comprising:
- (a) introducing into a fertilized egg of a non-human mammal, DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the marker fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human mammal and expression of the gene coding for the marker fluorescent protein is detected using fluorescence;
  - (b) introducing the fertilized egg of (a) into a non-human mammal of the same species;
  - (c) allowing the non-human mammal to produce progeny which are non-human transgenic mammals; and
  - (d) selecting non-human mammal progeny of (c) whose multipotent stem and progenitor cells selectively express the marker fluorescent gene.

19. (Twice Amended) A method for measuring a multipotent stem and progenitor cell population in an animal organ or region thereof, comprising:

measuring cells which fluoresce from the organ or region thereof of a non-human transgenic mammal which has integrated into its genome DNA comprising:

C<sup>4</sup> a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal and the expression of the gene coding for the marker fluorescent protein is detected using fluorescence,

wherein the cells which fluoresce are multipotent stem and progenitor cells.

51. (Amended) A transgenic mouse, progeny or embryo thereof which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the marker fluorescent protein is expressed in multipotent stem and progenitor cells of the transgenic mouse, progeny or embryo thereof and the expression of the gene coding for the marker fluorescent protein is detected using fluorescence.

58. (Amended) A method of producing a transgenic mouse which expresses a marker fluorescent protein in multipotent stem and progenitor cells, comprising:

C<sup>6</sup> (a) introducing into a fertilized egg of a mouse, DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a marker fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene,

C6 cont'd  
and wherein the gene coding for a marker fluorescent protein is expressed in multipotent stem and progenitor cells of the mouse and the expression of the gene coding for the marker fluorescent protein is detected using fluorescence;

- (b) introducing the fertilized egg of (a) into a mouse;
  - (c) allowing the mouse to produce progeny which are transgenic mice; and
  - (d) selecting mice of (c) whose multipotent stem and progenitor cells selectively express the marker fluorescent gene.
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66. (Amended) A method for measuring a multipotent stem and progenitor cell population in a mouse organ or region thereof, comprising:

C7  
measuring cells which fluoresce from the organ or region thereof of a transgenic mouse which has integrated into its genome DNA comprising:

a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the transgenic mouse and the expression of the gene coding for the fluorescent protein is detected using fluorescence,

wherein the cells which fluoresce are multipotent stem and progenitor cells.

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72. (Amended) A method for measuring a multipotent stem and progenitor cell population in a live animal, organ or tissue of the live animal, comprising:

C8  
measuring fluorescence of cells from a live non-human transgenic mammal, or from an organ, tissue or region of the live non-human transgenic mammal, wherein the live non-human transgenic mammal has integrated into its genome DNA comprising:

a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin

18 cont'd

gene, and wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic mammal and the expression of the gene coding for the fluorescent protein is detected using fluorescence,

wherein the cells which fluoresce are multipotent stem and progenitor cells.

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19

78. (Amended) An expression construct comprising a promoter sequence of mammalian nestin gene, a gene coding for a marker fluorescent protein, wherein the marker fluorescent protein is detected using fluorescence, and a regulatory sequence present in the second intron of said mammalian nestin gene.

79. (Amended) A non-human transgenic adult mammal which has integrated into its genome DNA comprising a regulatory sequence of a mammalian nestin gene operably linked to a gene coding for a fluorescent protein, wherein the regulatory sequence includes a nestin promoter and a second intron, or fragment thereof, of the mammalian nestin gene, and wherein the gene coding for the fluorescent protein is expressed in multipotent stem and progenitor cells of the non-human transgenic adult mammal and the expression of the gene coding for the fluorescent protein is detected using fluorescence.

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Amendments to the specification and claims are indicated in the attached "Marked Up Version of Amendments" pages i - v.